Cold Climate Housing Research Center

CCHRC

Hybrid Micro Energy Program
Award No. 01163
Quarterly Report: January 1, 2012 to March 31, 2012

Per the terms of the Hybrid Micro-Energy Program (HMEP) grant agreement, the three priority renewable energy systems to be evaluated are:

A small scale biomass combined heat and power (CHP) system that can convert wood into heat and power for use in small scale loads including residences, small community facilities, and potentially small communities and/or neighborhoods.

This portion of the grant was completed with the submission of the final report on March 29th.

A ground source heat pump project that includes solar thermal collection to recharge the ground

The school district replaced the compressor on the heat pump in January. The system ran for several days with a COP (efficiency) of 3.5, but then stopped working. The installed monitoring system was able to determine that the system had gone down again and school district personnel were able to quickly shut everything down. The school district and the manufacturer are working to troubleshoot the problem, which appears to be a faulty circuit board. The school district is working closely with the manufacturer to repair this latest problem and hopes to have the system working well by the start of the next school year. In the meantime, we have collected a full year of data on the ground loop without solar recharge.

A combined solar photovoltaic (PV) and wind system integrated into an energy efficient load design.

This portion of the grant was completed with the submission of the final report on March 29th.